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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/086,980	03/01/2002	Osman Kent	TD-168	6304

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EXAMINER

TUNG, KEE M

ART UNIT PAPER NUMBER

2676

DATE MAILED: 08/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/086,980

Applicant(s)

KENT, OSMAN

Examiner

Kee M Tung

Art Unit

2676

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 May 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3-5 and 7-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-5 and 7-35 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

The amendment filed 5/4/04 has been considered in preparing this Office action.

#### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 3-5 and 7-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baldwin (6,025,853) in view of Brend et al (5,459,864).

Baldwin teaches a graphics processor (2E) comprising a plurality of parallelized graphics computational units (col. 64, lines 16-21, 25-29 and 38-40), such as, rasterizer, scissor, stipple, alpha test, fog, texture, stencil test, depth test, local and frame buffer controllers. However, Baldwin fails to explicitly teach or suggest one or more task allocation units programmed to bypass defective ones of said subunits within said groups, and distribute incoming tasks only among operative ones of said subunits. It is old and well known and well used in the art to dynamically load balanced among multiple processors include skip or bypass defective unit(s). Furthermore, Brent teaches a load balancing, error recovery and reconfiguration control in a data movement subsystem with cooperating plural queue processors (Fig. 2, abstract, col. 2, lines 39-45, col. 5, lines 49-52 and col. 6, lines 11-18). It would have been obvious to one of ordinary skill in the art at the time the present invention was made to combine the teachings of bypass defective unit and distribute load from defective unit to other units

of Brend into the system of Baldwin in order to automatic load balancing among plural processors, automatic recovery from any failing processor, and automatic reconfiguration for the subsystem containing the processors without intervention from the operating system as taught by Brend (col. 1, lines 18-24). Therefore, at least claims 1, 3-5 and 7 would have been obvious.

As per claims 8 and 9, Baldwin teaches one or more of said parallelized graphics computational units operate with no more than 4 operative vertex processors and/or texture pipelines (Fig. 2D).

As per claims 10 and 11, Baldwin further teaches shading unit (col. 48, lines 26-50), primary texture cache (local texture storage, col. 7, lines 25-31) and a texture filter unit (col. 48, line 53 to col. 49, line 63).

Claims 12-19 are similar in scope to claims 1, 3-5 and 7-11, and thus are rejected under similar rationale.

Claims 20-27 are similar in scope to claims 1, 3-5 and 7-11, and thus are rejected under similar rationale.

Claims 28-35 are similar in scope to claims 1, 3-5 and 7-11, and thus are rejected under similar rationale.

### ***Response to Arguments***

3. Applicant's arguments filed 5/4/04 have been fully considered but they are not persuasive.

Basically, applicant argues that Brent's processors are not a graphics computational unit. As detailed in the 35 USC 103 rejection above, Baldwin teaches a

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plurality of parallelized graphics computational units. Brent teaches a plurality of processors (not graphics computational units) where load balancing, error recovery and reconfiguration control (such as, addition or deletion includes remove/skip/bypass defective of processor). The examiner used Brent to show that the concept of bypass defective unit in plurality of parallel units/processors and redistribute the load to other units is old and well known as proved by Brent. Furthermore, an increase or decrease the number of processors in parallel processors system is generally recognized as being within the level of ordinary skill in the art. In re Rose, 105 USPQ 237 (CCPA 1955).

### ***Conclusion***

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kee M Tung whose telephone number is 703-305-9660. The examiner can normally be reached on Tuesday - Friday from 5:30 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Bella can be reached on 703-308-6829. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Kee M Tung  
Primary Examiner  
Art Unit 2676